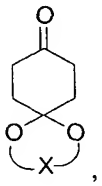
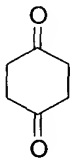
CLAIMS

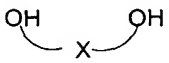
1. A process for preparation of a monoketal compound of the structure



said process comprising reacting 1,4-cyclohexanedione of the structure



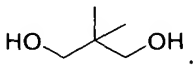
with a diol of the structure



in a halogenated organic solvent in the presence of an acid catalyst, wherein X is a substituted or unsubstituted ethylene or propylene.

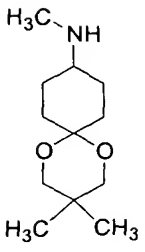
2. The process of claim 1, wherein said diol is selected from the group consisting of ethylene glycol, propylene glycol, neopentyl glycol or 1,3-propanediol.

3. The process of claim 1, wherein said diol is neopentyl glycol of the structure



4. The process of claim 3, further comprising

a. converting said monoketal compound to an alkylamino ketal of

the structure;  and

b. reacting said alkylamino ketal with 4-carboxamidophenylhydrazine.

5. The process of claim 1, wherein said halogenated organic solvent is a C_1-C_3 haloalkane.

6. The process of claim 5, wherein said C_1-C_3 haloalkane is selected from the group consisting of chloroform, dichloromethane, dichloroethane, carbon tetrachloride and mixtures thereof.

7. The process of claim 5, wherein said C_1-C_3 haloalkane is dichloromethane.

8. The process of claim 5, wherein said C_1-C_3 haloalkane is chloroform.

9. The process of claim 1, wherein the molar ratio of 1,4-cyclohexanedione to 2,2-dimethyl-1,3-propanediol ranges from about 1:1 to about 1:4.

10. The process of claim 1, wherein the molar ratio of 1,4-cyclohexanedione to 2,2-dimethyl-1,3-propanediol ranges from about 1:1 to about 1:2.

11. The process of claim 1, wherein the molar ratio of 1,4-cyclohexanedione to 2,2-dimethyl-1,3-propane diol is about 1:1.

12. The process of claim 1, wherein the weight/volume ratio of 1,4-cyclohexanedione to said halogenated organic solvent ranges from about 1:1 to about 1:20.

13. The process of claim 1, wherein the weight/volume ratio of 1,4-cyclohexanedione to said halogenated organic solvent is about 1:8.

14. The process of claim 1, wherein the reacting step includes dissolving 1,4-cyclohexanedione and said diol in said halogenated organic solvent and adding said acid catalyst to initiate the reaction.

15. The process of claim 1, wherein said acid catalyst is selected from the group consisting of hydrochloric acid, *p*-toluenesulfonic acid, sulfuric acid, fumaric acid, phthalic acid, oxalic acid and mixtures thereof.

16. The process of claim 1, wherein said acid catalyst is sulfuric acid.

17. The process of claim 1, wherein said reaction is performed at a temperature of from about 25 to about 50°C.

18. The process of claim 1, wherein said reaction is performed at a temperature of from about 25 to about 30°C.

19. The process of claim 1, further comprising removing said halogenated solvent to provide a crude residue; contacting said crude residue with an aliphatic or alicyclic hydrocarbon solvent; and removing solid impurities from the mixture.

20. The process of claim 19, wherein said aliphatic or alicyclic hydrocarbon solvent is selected from the group consisting of petroleum ether, hexane, n-hexane, cyclohexane, n-heptane, cycloheptane and mixtures thereof.

21. The process of claim 19, wherein said aliphatic or alicyclic hydrocarbon solvent is n-heptane.

22. The process of claim 19, wherein the removal of by-product(s) is achieved by filtration.

23. The process of claim 22, further comprising cooling the mixture of the crude residue and the aliphatic or alicyclic hydrocarbon solvent to a temperature of from about 0 to about 25°C before said filtration.

24. The process of claim 23, wherein said reaction mass is cooled to a temperature of about 0-5°C.

25. A process for the preparation of 1,4-cyclohexanedione mono-2,2-dimethyl trimethylene ketal, said process comprising:

a. reacting 1,4-cyclohexanedione and neopentyl glycol in dichloromethane or chloroform in the presence of sulfuric acid at about 25-50°C;

b. removing dichloromethane or chloroform to provide a crude residue;

c. combining an aliphatic or alicyclic hydrocarbon solvent with said crude residue to form a mixture;

d. cooling said mixture to a temperature of about 0-5°C; and

e. filtering the cooled mixture to remove undissolved impurities.